

## 5.0 Routine Site Inspections

Routine Site inspections are performed by technical and field personnel. Regularly scheduled routine inspections are described below. In addition to the inspections and monitoring occurring periodically throughout the year, an annual inspection and monitoring of other remedy components is also required.

### 5.1 Annual Inspection

The following categories are inspected or monitored:

- Evidence of significant erosion in the COU and evaluation of the proximity of significant erosion to subsurface features on Figures 3 and 4 of RFLMA Attachment 2. This monitoring includes visual observation for precursor evidence of significant erosion (cracks, rills, slumping, subsidence, sediment deposition, and so forth);
- The effectiveness of institutional and physical controls as determined through any evidence of the violation of any of these controls;
- Evidence of adverse biological conditions, such as unexpected morbidity or mortality, observed during the inspection and monitoring activities; and
- Verification that the Environmental Covenant for the COU remains in the Administrative Record and is on file with Jefferson County Planning and Zoning Department through the recorded land records.

#### 5.1.1 Frequency/Timing of Annual Inspection

This inspection of the surface of the COU is scheduled in late winter or early spring to allow adequate observation of surface features after snow cover has melted and the surface is dry enough to avoid muddy conditions and before vegetation growth might obscure land surface features.

The annual inspection includes items that are not otherwise inspected throughout the year. Individual inspections for ponds and dams, landfills, groundwater treatment systems, erosion control, and revegetation occur within a reasonable timeframe prior to the overall Site inspections. At any time through the consultative process or during the CERCLA 5-Year Review, DOE may propose modifications to the inspection frequencies.

#### 5.1.2 Specific Site Surveillance and Maintenance Features

Specific surveillance and maintenance items are listed in the annual inspection checklist (Appendix B). Other routine surveillance and maintenance items are inspected at frequencies more often than annually and documented in accordance with the procedures relevant to those items.

#### *Ash Pits*

A survey marker was installed in the immediate vicinity of the Ash Pits prior to closure. The purpose of this marker, which is identified as marker 1001, is to enable the evaluation of slope instability that might affect the Ash Pits.

The Ash Pits area will be inspected, at a minimum, during each annual Site inspection to look for signs of potential slumping (fractures and subsidence). If significant erosion or precursor evidence of significant erosion as defined in RFLMA are identified, the conditions must be evaluated to determine whether they are reportable conditions under RFLMA; the survey marker will be surveyed to determine the amount of movement at the location, if any; and a geotechnical engineer will inspect the area. Response actions will be determined through the consultative process.

Survey marker 1001 will be surveyed whenever Site facilities (e.g., monitoring wells, surface water stations, survey markers, and roads) are surveyed. More frequent surveys, such as during surveys of settlement monuments at the landfills, may also be performed if desired or if conditions at the Ash Pits have been observed that suggest this would be prudent. Survey results will be compared with the original coordinates generated during installation of the marker, as documented in the *Rocky Flats Environmental Technology Site Survey Control Network Report* (Attachment F1). If coordinates differ by more than 0.5 foot (X, Y, or Z direction), a detailed inspection of the area will be performed to look for signs of potential slumping (e.g., fractures and subsidence). If any such signs are identified, the conditions must be evaluated to determine whether they are reportable conditions under RFLMA and a geotechnical engineer will inspect the area. Response actions will be determined through the consultative process.

### **5.1.3 Inspection Checklist and Map**

Annual Site inspections are guided by a checklist that addresses the conditions of the features to be inspected. The annual inspection checklist and inspection map for the Site are presented in Appendix B. The map is used to record field notes, photograph locations, and other annotations of inspection findings. The field maps will become part of the permanent Site record.

At the conclusion of a Site inspection, inspectors may recommend revisions to the applicable checklist in anticipation of the next Site inspection. The inspectors may also recommend consultation with the RFLMA parties to amend inspection requirements or discuss the response to a problem discovered during the inspection. The checklist will be reviewed and revised as necessary before each inspection to incorporate changes in RFLMA requirements or changes to Site features or systems. Revisions to the checklist may include instructions addressing new observations, notes about maintenance conducted since the previous inspection, changes to requirements for the inspection, and/or descriptions of progressive changes in Site conditions.

The inspection checklist will support the preparation of appropriate protocols and procedures necessary to satisfy the requirements of this RFSOG and RFLMA. Concurrent with each annual inspection, inspectors will review the *Comprehensive 5-Year Review Guidance* (EPA 2001a) to ensure inspection objectives are consistent with requirements for the CERCLA 5-Year Review.

### **5.1.4 Inspection Procedure**

To conduct this work, knowledgeable DOE and Stoller team staff members (the inspection team) will walk down the COU surface to observe the conditions. The areas walked down are designated as Areas A through E as shown on the maps included in Appendix B. These areas generally coincide with the location of the subsurface features in RFLMA Attachment 2, Figures 3 and 4, or afford adequate viewing of the surface in these locations (e.g., sloping areas).

Several team members are assigned to walk down a particular area or areas identified on the maps.

DOE may invite the CDPHE RFLMA project coordinator to participate in the inspections. DOE will conduct a pre-inspection meeting with the inspection participants before inspecting the Site. The checklist will be reviewed at the meeting and information will be discussed to inform inspection participants of Site conditions and issues.

Overall conditions of the Site will be inspected in consideration with corresponding regulatory and Site management requirements. Attachment 2 to RFLMA provides specific items that must be included in the annual inspection.

Inspectors will compare current results with previous inspection results to determine whether inspection areas remain consistent over time or whether additional degradation or other changes have occurred. If inspectors identify problems with any of the features or conditions at the Site, DOE will consult with the RFLMA parties in accordance with RFLMA.

Evidence of vandalism, changed conditions, or maintenance needs will be documented with photographs. Inspectors will record photograph information on a field photograph log, which will become part of the permanent record of the annual inspection. The results of the annual inspection will be included in the annual report prepared as required by RFLMA.

Marker flags will be placed wherever there is evidence of the three condition categories listed above, to track their location for follow-up by Site subject matter experts (SMEs). Rocky Flats field operations SMEs will subsequently visit the areas to determine whether items are significant indications of erosion or exposure of the subsurface. Marker flags will also be placed in areas where debris or trash is noticed so that these may be collected.

### **5.1.5 Personnel**

It is anticipated that a team of inspectors will typically perform annual inspections. Inspectors will be experienced personnel who have the required knowledge, skills, and abilities to evaluate Site conditions and recognize potential or actual problems. The team will be led by the DOE-LM Site manager or designee.

Inspectors will be assigned to a specific component of the inspection on the basis of Site conditions and inspector expertise. Areas of expertise include civil, geotechnical, and geological engineering, as well as geology, hydrology, biology, and environmental science (e.g., ecology, soils, or range management). Additional Site staff may assist with the inspection, but unless trained in one or more relevant area of expertise, they will mainly act as “additional eyes” and assist with recordkeeping and tracking.

### **5.1.6 Reports**

Results of the annual Site inspections will be included in the RFLMA quarterly report or annual report for the period during which the inspection was completed (see Section 15.0).

## **5.2 Other Routine Inspections**

Other routine inspections are performed throughout the year, as discussed in other sections of this RFSOG.

Monthly inspections of the Dover Street office and the Site are conducted by the Rocky Flats technical staff. Focused inspections of items listed on form LMS 2114e, Routine Health and Safety Inspection Checklist, are rotated to ensure that a comprehensive picture of general workplace safety is achieved. Staff are assigned a month to perform either the Site or office inspection; both inspections are performed monthly.

Once inspections are complete, the forms are submitted to the H&S specialist, who reviews any concerns or comments. Issues to be resolved are noted and either immediately remedied or assigned a date for completion and compliance. The LMS Site manager then reviews the inspection checklist prior to its delivery to the LMS H&S Workbox email address. The inspection checklists can be found on the LM Portal, Health and Safety page.

## **5.3 Observation Log**

A Site observation log has been developed and is maintained on the Rocky Flats RF-share drive. When items at the Site are identified that require attention, maintenance, or repair, they are noted on this log. The log contains additional information such as the individual making the observation, the date on which it was observed, what was observed, its priority (i.e., something that needs urgent attention versus something that can be checked occasionally over time), and what category the observation falls into. Completion of the required maintenance, repair, or other action, closeout personnel, and closeout date are also recorded on the log.